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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,889	06/22/2001	Yellapu Anjan	MPI-68	7997

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EXAMINER

KIANNI, KAVEH C

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant(s)

09/887,889

Applicant(s)

ANJAN, YELLAPU

Examiner

Kevin C Kianni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) 4, 8 and 11-14 is/are objected to.
- 8) ☒ Claim(s) 19 and 20 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's election without traverse of claims 1-18 in paper no.4 is acknowledged.

#### **Allowable Subject Matter/Reason for Allowance**

2. Claims 4, 8 and 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 4 is allowable because the prior art, in combination with other limitations of the base claim (and intervening claim(s)), does not teach each of said orienting steps comprises illuminating a respective one fiber of said first or second optical fibers with a laser source and rotating said respective one fiber around its respective longitudinal axis and monitoring the interference pattern produced in said respective one fiber. Claim 8 is allowable because the prior art, in combination with other limitations of the base claim (and intervening claim(s)), does not teach wherein said substrate comprises fused silicon. Claim 11, is allowable because the prior art, in combination with other limitations of the base claim (and intervening claim(s)), does not teach tapering said first optical fiber jacket adjacent each end of said first portion to produce first and second tapered portions. Claims 13-14 depend to claim 11 and therefore they are also allowable.

Claims 15-18 are allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious tapering said first optical fiber jacket adjacent to each end of said first optical fiber first portion to produce first and second

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tapered jacket portions; tapering said second optical fiber jacket adjacent to each end of said second optical fiber first portion to produce first and second tapered jacket portions in combination with the rest of the limitations of the base claim.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlgren (US 5078465)

Regarding claims 1 and 5-7 Dahlgren teaches a method of manufacturing an optical coupler (shown at least in fig. 1; see abstract), comprising: orienting a polarization maintaining first optical fiber to a first predetermined orientation (see fig. 1, item 1 and col. 2, lines 42-60); orienting a polarization maintaining second optical fiber to said first predetermined orientation (see fig. 1, item 2 and col. 2, lines 42-60); placing a first portion of said first and second optical fibers in a side-by-side relationship (shown in fig. 1, items 1 and 2); fusing said first portion of said first and second optical fibers with heat from a heat source to produce a fused portion (see abstract and col. 2, lines 47-52); tapering said fused portion to produce a predetermined taper over said fused portion (see col. 2, lines 50-57); supporting said first and second optical fibers on a

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substrate (shown at least in fig. 3-4); encapsulating the fibers in a housing (shown in fig. 5G) disposing a dielectric gel on said first and second optical fibers and said a rod/block proximate each end of said fused portion (see col. 4, lines 27-41).

Dahlgren further teaches using heat source to heat a predetermined fixed distance during said fusing and tapering steps (shown in fig. 1, items 1 and 2 regions to be fused and col. 2, lines 42-57). However, Dahlgren does not specifically teach wherein the fusion is carried out by moving said heat source repeatedly over the fixed distance. It would have been obvious to a person of ordinary skill in the art when the invention was made to implement the above fusion/heating of the optical fibers by moving said heat source repeatedly over the fixed distance since such fusion process improves fused fiber coupler by providing stable optical splitting ratio and low polarization cross-coupling (col. 1, lines 46) and since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

Regarding claim 2, Dahlgren further teaches where said first polarization maintaining fiber is PANDA fiber; and said second polarization maintaining fiber is PANDA fiber (see col. 7, lines 27-31).

Regarding claim 3, Dahlgren further teaches where said first and second optical fibers each have first and second polarization modes corresponding to first and second orthogonal principal axes; and wherein said first predetermined orientation comprises

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one of said first or second polarization modes (see fig. 1, items 1-2 and col. 1, lines 16-31).

Regarding claims 9-10, Dahlgren further teaches where each of said first and second optical fibers comprises a jacket (see fig. 1, item jacket(s)); removing said first optical fiber jacket in a region corresponding to said first portion and removing said second optical fiber jacket in a region corresponding to said first portion bonding said first optical fiber jacket to said second optical fiber jacket adjacent each end of said first portion (shown at least in fig. 1; see also col. 1, line 40-col. 2, line 3); selecting PANDA fiber for said first and second optical fibers (see col. 7, line 29).

### ***Response to Arguments***

5. Applicant's argument filed on June 30, 2003 have been fully considered and thus the examiner, after reviewing the applicant's comments, agreed with applicant that certain claims of the case are not taught by prior art of the record. Thus, the examiner deemed the claims 4, 8 and 11-14 as being objected claims but would be allowed if they include all the limitations of the base claim and any intervening claims, and, further, claims 15-18 are allowed. Nevertheless, regarding applicant's assertion that Dahlgren does not specifically teach wherein the fusion is carried out by moving said heat source repeatedly over the fixed distance. The examiner responds that this limitation is mere a matter of design choice in which it would have been obvious to a person of ordinary skill in the art when the invention was made to implement the above

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fusion/heating of the optical fibers by moving said heat source repeatedly over the fixed distance since such fusion process improves fused fiber coupler by providing stable optical splitting ratio and low polarization cross-coupling (col. 1, lines 46) and since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

***THIS ACTION IS MADE FINAL***

6. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaveh Cyrus Kianni whose telephone number is (703) 308-1216.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (703) 308-4881.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**or:**

(703) 308-5397, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 305-4770.

Kevin Cyrus Kianni  
Patent Examiner  
Group Art Unit 2877

Frank Font  
Supervisory Patent Examiner  
Group Art Unit 2877

July 16, 2003

